



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/669,384	09/26/2000	Yasushi Sumi	NWA-15602/04	3384

7590 07/08/2003

Douglas W Sprinkle
Gifford Krass Groh Sprinkle
Anderson & Citkowski P C
280 N Old Woodward Suite 400
Birmingham, MI 48009

[REDACTED] EXAMINER

PATEL, SHEFALI D

ART UNIT	PAPER NUMBER
2621	5

DATE MAILED: 07/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/669,384	SUMI ET AL.	
	Examiner	Art Unit	
	Shefali d Patel	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 26 September 2000.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-8 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 26 September 2000 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: On page 7 line 15, “position O” is not shown in any of the figures provided. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 2-4 and 6-8 are objected to because of the following informalities: Claims 2-4 and 6-8 have parenthesis around the numbered claim on which it is depended on. Please delete these parentheses. For example, in claims 2-4, replace “(1)” with --1--, and in claims 6-8, replace “(5)” with --5--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Sumi et al. (USPN 5,845,006).

With regard to **claim 1**, Sumi et al. (hereinafter, “Sumi”) discloses an object motion tracing method for tracing the three-dimensional (hereinafter, “3-D”) motion of an object, based on the stereo image of the object concerned obtained in time series (as described in Fig. 2),

composed of: a selecting step for selecting tracing points corresponding to the silhouette of the object concerned in the stereo image of the object (which corresponds to tracing points of the edges of the object, the edges of the object being the silhouette, are selected at step S4, in Fig. 2, and col. 2 lines 60-61); a sampling step for sampling from the above-mentioned stereo image the corresponding points on the silhouette of the object corresponding to respective tracing points (step S5 in Fig. 2, col. 2 lines 61-62); a measuring step for measuring the 3-D coordinates of the sampled corresponding points (step S6 in Fig. 2, col. 2 lines 62-64); and a detecting step for detecting the position/posture of the object from the 3-D coordinates of those respective tracing points and respective corresponding points (step S7 in Fig. 2, col. 2 lines 64-65),

Wherein, the 3-D motion of aforesaid object is traced by continuously repeating each process from the selecting step through the detecting one toward each frame of the stereo image obtained in time series. This feature is considered inherent because it would be necessary to repeat the steps identified above for each of the frames, until satisfactory results of the tracing points for tracing the three dimensional motion of an object is obtained.

Claim 5 recites identical features, as claim 1 except claim 5 is a recording media claim. Thus, arguments similar to that presented above for claim 1 is equally applicable to claim 5. Note, Sumi discloses recording media in Figure 1, col. 2 lines 40-55.

With regard to **claim 2**, Sumi discloses the 3-D geometric model of an object being used to select the tracing points on the selecting step. As seen from Fig. 3 to Fig. 10 that 3-D model of an object is being used. Sumi discloses selection of tracing points at col. 3 line 56.

With regard to **claim 3**, Sumi discloses the 3-D coordinates being measured by stereo vision applying stereo correspondence on the measuring step at col. 4 lines 35-53.

With regard to **claim 4**, Sumi discloses the 3-D coordinates being measured by monocular vision (i.e., single-eyed view) on the measuring step at col. 4 lines 54-62.

Claim 6 recites identical features, as claim 2 except claim 6 is a recording media claim. Thus, arguments similar to that presented above for claim 2 is equally applicable to claim 6.

Claim 7 recites identical features, as claim 3 except claim 7 is a recording media claim. Thus, arguments similar to that presented above for claim 3 is equally applicable to claim 7.

Claim 8 recites identical features, as claim 4 except claim 8 is a recording media claim. Thus, arguments similar to that presented above for claim 4 is equally applicable to claim 8.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

USPN 5,574,498 – Target tracing system: See Fig. 10

USPN 6,072,903 – Image processing apparatus and a method, see Fig. 3

USPN 5,616,078 – Motion-controlled system. See col. 4, 5 and 7

USPN 5,692,061 – Method of utilizing a 2-D image for detecting the position/posture/shape of a 3-D object.

Saito et al., "3D Shape Measurement of Underwater Objects Using Motion Stereo", IEEE, 1995, 1231-1235

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shefali d Patel whose telephone number is 703-306-4182. The examiner can normally be reached on M-F 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H Boudreau can be reached on 703-305-4706. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

Shefali Patel
July 3, 2003



Daniel Mariam
Primary Examiner
Art Unit 2621